UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/087,496	05/29/1998	JAN E. FORSLOW	2372-5	9614

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EXAMINER
NGUYEN, TOAN D

ART UNIT	PAPER NUMBER
2663	

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

	Application No.	Applicant(s)
Office Action Summary	09/087,496	JAN E. FORSLOW
	Examiner	Art Unit	
	Toan D Nguyen	2665	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _20 November 2001_ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _49-121_ is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _49-58,66-75,77,78,80-102,110-116 and 119-121_ is/are rejected.

7)☒ Claim(s) _59-65,75,79,103-109,117 and 118_ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

　　If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a)☐ All b)☐ Some * c)☐ None of:

　　　1.☐ Certified copies of the priority documents have been received.

　　　2.☐ Certified copies of the priority documents have been received in Application No. _____ .

　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

　　a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)	4)☐ Interview Summary (PTO-413) Paper No(s). _____ .
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)	5)☐ Notice of Informal Patent Application (PTO-152)
3)☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .	6)☐ Other: _____ .

DETAILED ACTION

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

2.   Claims 49-58, 66-75, 77-78, 80-102, 110-116 and 119-121 are rejected under U.S.C.

103(a) as being unpatentable over Baugher et al. (EP 0632672 A2) in view of Scholefield et al.

(WO 97/09836).

For claims 49, 66, 77, 97, 110 and 115, Baugher et al. disclose system and method for

bandwidth reservation for different traffic classes comprising:

establishing a packet session over the radio interface for the mobile radio terminal using

radio resources from the pool during which plural application flows are communicated with an

external network entity, each application flow having a corresponding stream of packets (figure

5, col. 12 lines 37-41);

defining a corresponding quality of service parameter for each of the plural application

flows such that different quality of service parameters may be defined for different ones of the

application flows (see figure 5, col. 12 lines 41-54); and

determining whether radio sources from the pool are available to support the quality of

service parameters defined for each of the plural application flows (figure 8, col. 13 lines 22-26).

In claim 66, Baugher et al. disclose further making a reservation request from the mobile host to the gateway node for a particular quality of service for an individual application flow (col. 3 lines 43-47);

determining whether the reservation request can be met (col. 4 lines 32-34); and

if so, establishing a logic bear between the mobile host and the gateway node that includes the serving node to bear plural ones of the individual application flows having different corresponding quality of service (col. 12 lines 37-54).

Baugher et al. disclose further in claims 77 and 115, the serving node merging packets from different sessions with the same quality of service (see figure 5, col. 12 lines 37-39).

However, Baugher et al. do not disclose a plurality of mobile radio host communicating with a radio network. In an analogous art, Scholefield et al. disclose a plurality of mobile radio host communicating with a radio network (figure 1, page 5 lines 27-28). One skill in the art would have recognized a wireless communications system having one or more subscriber units (page 5 lines 26-28) to use teaching of Scholefield et al. in the system of Baugher et al. Therefore, it would have been obvious to one of ordinary skill in the art at the time invention, to use the combined method and apparatus for communicating in a wireless communication system as taught by Scholefield et al. in system and method for bandwidth reservation for different traffic classes of Baugher et al.

For claims 50 and 98, Baugher et al. disclose delivering packets corresponding to each application flow from the external network entity to the mobile radio terminal in accordance with the defined corresponding quality of service (figure 2, col. 6 lines 45-49 and col. 12 lines 41-54).

For claims 51 and 99, Baugher et al. disclose the quality of service is defined for said each application flow at a network packet layer for an end-to-end communication from the mobile host and the external network entity (col. 3 lines 49-56).

For claims 52 and 100, Baugher et al. disclose different qualities of service have different allocated bandwidths, delays, or reliability (col. 3 line 10, col. 8 line 23, and col. 12 line 37-41).

For claims 53 and 101, Baugher et al. disclose the different quality of services include one class of service that is best effort where packets in an application flow may be dropped and another class of service that is predictive where packets in an application flow are not dropped (col. 9 lines 9-21).

For claims 54 and 102, Baugher et al. disclose a quality of service includes a delay class that specifies one or more of the following: a maximum packet transfer rate, a mean packet transfer rate, and a packet burst size of an application flow (col. 4 lines 48-50 and col. 8 lines 30-32).

For claim 55, Baugher et al. disclose storing subscription information for the mobile host sepcifying whether the mobile radio terminal may request a quality of service for specific application flows, and checking the subscription information before defining quality of service parameters (col. 16 lines 13-19).

For claim 56, Baugher et al. disclose making available for the packet session each quality of service class to which a user of the mobile radio terminal subscribes (col. 3 lines 25-30).

For claim 57, Baugher et al. disclose session control messages are communicated between the mobile radio terminal and the gateway node using a best efforts quality of service delay class (col. 8 lines 20-24).

For claim 58, Baugher et al. disclose activating a packet session for the mobile radio

terminal so that the mobile radio terminal is in communication with the gateway node (figure 2,

col. 6 lines 45-49);

the mobile radio terminal requesting an end-to-end configuration between the mobile

terminal and the external network entity (col. 6 lines 45-49).

For claim 67 and 111, Baugher et al. disclose classifying and scheduling packets

corresponding to said each application flow from the external network to the mobile radio host

over the bearer in accordance with the defined quality of service class corresponding to the

application packet stream (figure 9B, col. 14 lines 8-27).

For claims 68 and 119, Baugher et al. disclose the serving node determining if the

reservation request for the particular quality of service is permitted by a subscription

corresponding to the mobile radio host (figure 9A, col. 14 lines 8-9).

For claims 69 and 120, Baugher et al. disclose the serving node evaluating if the

reservation request for the particular quality of service can be supported from the serving node to

the mobile radio host based on a current traffic load of existing radio communications in the area

where the mobile radio host is being served (col. 14 lines 9-10).

For claims 70 and 121, Baugher et al. disclose the evaluating step includes the serving

node estimating a delay and a bandwidth requirement corresponding to the request quality of

service (col. 8 lines 20-24 and col. 9 lines 11-21).

For claim 71, Baugher et al. disclose the serving node providing the gateway node the

estimated delay and an estimated of a bandwidth requirement corresponding to the reservation

request (col. 13 lines 19-26), and

the gateway node providing the delay and bandwidth estimates to a network layer

protocol (figures 9A and 9B, col. 13 lines 4-9).

For claim 72, Baugher et al. disclose the gateway node renewing the quality of service

reservation (col. 13 line 58 to col. 14 line 4).

For claims 73 and 112, Baugher et al. disclose the gateway node monitoring said each

application flow to ensure that the reserved quality of service for that application flow is met

(col. 13 lines 23-26).

For claims 74 and 113, Baugher et al. disclose the gateway node scheduling transfer of

packets corresponding to one of the application flows to ensure that the reserved quality of

service for that application flow is met (col. 14 lines 9-21).

For claims 75 and 114, Baugher et al disclose further comprising:

the gateway node classifying packets using the reserved quality of service for the

application flow to which each packet belongs (col. 14 lines 4-9).

For claims 78 and 116, Baugher et al. disclose the merging is performed using first in

first out scheduling except when packets cannot be delivered within a specified time (col. 13

lines 36-41).

For claim 80, Baugher et al. disclose system and method for bandwidth reservation for

different traffic classes comprising:

a radio network;

plural mobile radio terminals configured to communicate with the radio network over a

radio interface using radio resources from a pool of a radio sources that may be allocated to the

plural mobile radio terminals;

one mobile radio terminal configured to establish a data packet communications session

over the radio interface using radio resources from the pool during which two application flows,

corresponding to two data packet applications, communicate during the session two data packet

streams corresponding to the two data packet applications with another entity in an external

network (figure 5, col. 7 lines 14-25 and col. 12 lines 37-41), and

a radio packet network coupled between one mobile radio terminal and the external

network entity for reserving a different quality of service class for each of the two data packet

streams associated with the mobile radio terminal during the session (figure 5, col. 12 lines 41-

54);

wherein radio communication resources from the pool are reservable to support the two

data packet streams with different quality of services classes (col. 3 lines 49-56).

However, Baugher et al. do not disclose a radio network and plural mobile radio

terminals configured to communicate with the radio network over a radio interface using radio

resources from a pool of a radio sources that may be allocated to the plural mobile radio

terminals. In an analogous art, Scholefield et al. disclose a radio network and a plurality of

mobile radio host communicating with a radio network (figure 1, page 5 lines 27-28). One skill

in the art would have recognized a wireless communications system having one or more

subscriber units (page 5 lines 26-28) to use teaching of Scholefield et al. in the system of

Baugher et al. Therefore, it would have been obvious to one of ordinary skill in the art at the time

invention, to use the combined method and apparatus for communicating in a wireless

communication system as taught by Scholefield et al. in system and method for bandwidth

reservation for different traffic classes of Baugher et al.

For claim 81, Baugher et al. disclose packets corresponding to the two data packet streams having different quality of service classes are transferred to and from the mobile terminal using a data packet network bearer established for the session (col. 12 lines 37-54).

For claim 82, Baugher et al. disclose the quality of service class is reserved for each of the two data packet streams at a network packet layer for an end to end communication from the mobile terminal and the external network entity (col. 3 lines 49-56).

For claim 83, Baugher et al. disclose different qualities of service classes have different allocated bandwidths, delays, or reliability (col. 3 line 10, col. 8 line 23 and col. 12 line 37-41).

For claim 84, Baugher et al. disclose one of the different quality of service classes is a best effort delivery class where packets in an application flow may be dropped and another class of service is a predictive delivery service where packets in an application flow are not dropped (col. 9 lines 9-21).

For claim 85, Baugher et al. disclose each quality of service class includes a delay class that specifies one or more of the following: a maximum packet transfer rate, a mean packet transfer rate, and a packet burst size of an application flow (col. 4 lines 48-50 and col. 8 lines 30-32).

For claim 86, Baugher et al. disclose a database node that stores subscription information for the mobile terminal specifying whether the mobile radio terminal may request a quality of service for specific application data packet streams, and wherein the radio packet network checks the subscription information before a quality of service class is reserved (col. 16 lines 13-19).

For claim 87, Baugher et al. disclose the packet network includes:

a serving node coupled between the gateway node and the mobile terminal (figure 2, col. 6 line 48);

a gateway node coupled between the serving node and the external network entity (col. 13 line 23).

For claim 88, Baugher et al. disclose the gateway node relays packets between the mobile terminal and the external network entity (col. 13 lines 19-26).

For claim 89, Baugher et al. disclose the serving node evaluates if a quality of service class reservation request can be supported from the serving node to the mobile terminal based on a current traffic load of existing radio communications in an area where the mobile radio terminal is being served (col. 14 lines 9-10).

For claim 90, Baugher et al. disclose the serving node estimates a delay and a bandwidth requirement corresponding to the requested quality of service (col. 8 lines 20-24 and col. 9 lines 11-21).

For claim 91, Baugher et al. disclose the gateway node periodically renews the quality of service reservation (col. 13 line 58 to col. 14 line 4).

For claim 92, Baugher et al. disclose the gateway node schedules transfer of packets corresponding to one of the two data packet streams to ensure that the reserved quality of service for that is met (col. 14 lines 9-21).

For claim 93, Baugher et al. disclose the gateway node classifies packets using the reserved quality of service for the application flow to which each packet belongs (col. 14 lines 4-9).

For claim 94, Baugher et al. disclose the serving node includes:

a first set of queues storing packets having the same quality of service class and data

packet communications session (figures 6 and 7, col. 12 line 55 to col. 13 line3);

a second set of queues storing packet having the same quality of service class and the

same mobile terminal (col. 7 lines 14-22); and

a third set of queues storing packets being served in a same geographic area and having

the same quality of service class (col. 9 lines 51-57).

For claims 95-96, Baugher et al. in view of Scholefield et al. disclose system and method

for bandwidth reservation for different traffic classes comprising:

a reservation controller configured to reserve a different quality of service for different

ones of plural data packet streams associated with corresponding applications operating at the

mobile radio terminal and established during a data session when the mobile radio terminal is

attached to the radio packet network, the reservation controller also being configured to request

from the radio network, reservation of radio resources from the pool to support the different

quality of services defined for the different data packet stream (figure 2, col. 6 line 56 to col. 7

line 34).

Objection To Claims, Allowable Subject Matter

3.   Claims 59-65, 76, 79, 103-109 and 117-118 are objected to as dependent upon a rejected

base claims, but would be allowable if rewritten in independent form including all of the

information of the base claims and any intervening claims.

Response to Arguments

4.   Applicant's argument filed on 11/20/2001 have been fully considered, but are moot in view of new ground(s) of rejection.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Toan D Nguyen whose telephone number is 703-305-0140. The examiner can normally be reached on Monday- Friday (7:00AM-4:30PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on 703-308-6602. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-9600.

T.N.

HUY D. VU
PRIMARY EXAMINER